



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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GOVERNOR

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**North Carolina Board of Transportation
Environmental Planning and Policy Committee
Meeting Minutes for October 2, 2002**

A meeting of the Environmental Planning and Policy Committee (EPPC) was held on October 2, 2002 at 8:00 AM in the Board Room (Room 150) of the Transportation Building. Nina Szlosberg chaired the meeting. Other Board of Transportation members that attended were:

Conrad Burrell	Frank Johnson
Marion Cowell	Cam McRae
Nancy Dunn	Nina Szlosberg
Doug Galyon	Lanny Wilson

Other attendees included:

David Allsbrook	Pat Ivey	Allen Pope
Donnie Brew	Berry Jenkins	Lubin Prevatt
John M. Burns Jr.	Neil Lassiter	Bill Rosser
Roberto Canales	Emily Lawton	Ruth Sappie
Craig Deal	Sharon Lipscomb	Jamie Shern
C. A. Gardner	Carl McCann	Jay Swain
Lisa Glover	Ehren Meister	Greg Thorpe
Gail Grimes	Ashley Memory	Charles Tomlinson
Drew Harbinson	Mike Mills	Jim Trogden
Mike Holder	Marcus Milner	Steve Varnedoe
Julie Hunkins	Ken Pace	Don Voelker
David Hyder		

Ms. Szlosberg called the meeting to order. Ms. Szlosberg asked that Conrad Burrell introduce Jay Swain as the new Division 13 Engineer. Mr. Swain was formally in Division 14 as Assistant Division Engineer in charge of maintenance.

Ms. Szlosberg asked if everyone had an opportunity to review the meeting minutes from the September September 4, 2002 EPPC meeting. Ms. Dunn stated that it was important to have the discussion on the State Minimum Criteria that occurred at the September meeting captured in detail in the minutes for future use if needed. Ms. Lisa Glover stated that she felt she came across as overly dramatic in the meeting minutes,

especially in reference to some hypothetical situations that she described at the September meeting. Ms. Szlosberg accepted a motion to approve the minutes as presented, and the minutes were approved.

Ms. Szlosberg provided some background on the first agenda topic – policy guidance for the State Minimum Criteria (SMC). Nancy Dunn has been working with staff to develop draft policy guidance for review by the committee. Ms. Dunn started by saying that the educational process for the Board with regard to the SMC over the past year has been very helpful. She iterated that she does not want the Board to micromanage staff or prevent them from doing their jobs without jumping through unnecessary hoops. On the other hand, she is supportive of providing definite, positive, strong message to staff that when the SMC gets applied that we want them to seriously take a look at the situation and be sure there will not be a detrimental effect on not doing an environmental study. She stated two objectives: (1) to strengthen the department’s Environmental Stewardship Policy with regard to the State Minimum Criteria and (2) to send a consistent message to staff by having feedback and reporting and evaluations on how the State Minimum Criteria is being applied brought back to the EPPC on a regular basis (annually). With regard to the second objective, she stated that it may take several reports back from staff to determine the appropriate type and amount of data that should be reported.

Ms. Dunn presented a draft statement that was prepared by staff:

The NC Department of Transportation (NCDOT) shall apply the State Minimum Criteria in accordance with the department’s Environmental Stewardship Policy. In particular, departmental activities that fall within the applicability of the State Minimum Criteria will be planned and implemented in a manner that demonstrates our care for and commitment to the natural and human environment while providing a safe and well-maintained transportation system. In applying the State Minimum Criteria, the department will make decisions that demonstrate responsible stewardship and minimize environmental impacts to the maximum extent practicable.

Ms. Dunn then asked the committee for their comments and input. Mr. Cam McRae asked if the draft policy is redundant of the Environmental Stewardship Policy. Ms. Dunn responded that we are restating some of the same things but with an eye toward applying the policy to the use of the SMC and to show the staff that the Board is concerned about how the SMC is applied. Mr. McRae added that the last sentence is open to a lot of judgement and interpretation. Ms. Dunn said that the last sentence allows flexibility for the staff, as professionals, to make the best decisions. Ms. Szlosberg added that the phrase in the last sentence, “minimize impacts to the maximum extent practicable” is in a lot of our permitting language and we are required to do it by law.

Ms. Szlosberg stated that the Environmental Stewardship Policy is an umbrella policy for the department and this is specific guidance policy that applies to SMC. She suggested that this policy is consistent with, not redundant to, the department’s Environmental Stewardship Policy. Ms. Dunn stated that SMC is an area where lots of judgement is applied and the policy guidance for the SMC is communicating the Board’s in expectations on how the SMC is applied.

A committee member then asked what the term “practicable” means. Ms. Szlosberg stated it is the balance between costs and benefits, which is ultimately left to the interpretation and discretion of the Secretary.

Mr. McRae asked if the staff supports the policy, as drafted, and if it is consistent with the way we have been handling projects in the past. Mr. Allsbrook stated that staff plans to implement the SMC accordance with the intent in which it was approved. He further added that when staff reviewed it, they recommended that the last sentence be deleted, and the draft language presented does not reflect that recommendation.

Lanny Wilson suggested that the last sentence could end after “minimize environmental impacts” and not include the phrase “to the maximum extent practicable.” Ms. Julie Hunkins stated that taking this phrase out would mean that impacts would have to be absolutely minimized without a consideration of cost and benefit.

Mr. McRae asked why staff suggested that the last sentence be removed. Mr. Allsbrook said NCDOT could be challenged by environmental groups or others. Ms. Szlosberg indicated this is not a rule, but guidance for the department. Mr. Lanny Wilson stated that if the last sentence is not part of the policy, the policy is more general.

Ms. Szlosberg asked if we want to show that we are being responsible for minimizing impacts and weighing those impacts against costs and benefits, why would the committee not want the phrase “minimizing impacts to the maximum extent practicable” included in the policy statement? Ms. Dunn commented that this phrase is used commonly in permitting. Ms. Hunkins stated that similar language is included in Section 404 and Section 401 permits. Ms. Glover clarified that the Corps of Engineers requires that NCDOT choose the “least environmentally damaging practicable alternative” as part of the Section 404 permitting process. She continued that “practicable” generally means “practical” and is commonly included in numerous environmental regulations. Ms. Dunn commented that she perceives that including the phrase “to the maximum extent practicable” closes off some avenues with respect to arguments that some people might make.

Mr. McRae said he thought the reason why we developed the SMC was to deal with some of the more relatively small issues and, with the draft language, we are tying the staff’s hands with something that can cause controversy and make the process longer.

Mr. Marion Cowell suggested that if the staff makes decisions that are consistent with the departmental Environmental Stewardship Policy and following the SMC properly, then the last sentence is redundant and not needed. He added that he sympathizes with both sides of the discussion but believes the last sentence is unnecessary.

The draft guidance policy on SMC was approved by the EPPC as follows:

The NC Department of Transportation (NCDOT) shall apply the State Minimum Criteria in accordance with the department’s Environmental Stewardship Policy. In particular, departmental activities that fall within the applicability of the State Minimum Criteria will be planned and implemented in a manner that demonstrates our care for and commitment to the natural and human environment while providing a safe and well-maintained transportation system.

Ms. Dunn and Ms. Szlosberg asked how this policy will be communicated to staff. Mr. Allsbrook said that the policy would be presented at the Division Engineer’s monthly meeting and the Division Environmental Officers’

quarterly meetings. He indicated that those individuals are responsible for gathering the information about the use of the SMC as it relates to the 10-acre disturbance and 25-acre disturbance-related items.

Ms. Szlosberg asked Mr. Allsbrook if there is information from past projects that could be brought back to the committee that fit into the 10-acre and 25-acre items in the SMC. Mr. Allsbrook indicated that few projects fall have been built in the past that fit into those categories, but that Operations is in the process of collecting this information and will report back to the EPPC next month with the information available at that time. Ms. Dunn reiterated that it may take several rounds of examining the data available to decide on the type and amount of data that is needed to assess these two criterion.

Ms. Sloszberg introduced David Hyder of NCDOT's Office of Human Environment who gave an overview on the use of clean and alternative fuels at NCDOT. She reminded the committee that this presentation was a continuation of the committee's discussion on how NCDOT can help reduce mobile emissions, thus helping to improve overall air quality across the state. A team was formed at NCDOT to spearhead this initiative.

Mr. Hyder described the progress of NCDOT with alternative fuels, what is driving us toward this, and what the physical circumstances are around this. He described the impact of poor air quality on health, tourism, agriculture, industrial recruitment, transportation mobility. He outlined several goals on which the department should focus: to improve air quality, to be financially responsible, and to research and select long term technologies.

Mr. Hyder continued with a description of the forces that are driving the use of clean and alternative fuels. Senate Bill 953 (SP 953) laid out comprehensive goals for the state of North Carolina, many of which relate to planning. The goals include:

- 75% of new or replacement light duty vehicles in the state fleet be replaced with clean or alternative fueled vehicles
- 50% of new or replacement school buses will be replaced with clean or alternative fueled vehicles
- 50% of transit vehicles being replaced will be operated using clean fuel

Energy Efficiency Policy Act of 1992 (EPACT) requires that all fleet users have 25% of their fleet using a clean or alternative fuel in order to lower our dependence on foreign oil. This act does not include heavy vehicles, although some credits are applied toward our light vehicle conversion.

Nancy Dunn asked what the rationale was for the specific percentages. Mr. Hyder responded that he believes that they did not want to impose an undue financial burden because using alternative and clean fuels generally cost more – for fuel, for the vehicles, and for fueling facilities. In addition, these vehicles are more difficult to obtain than those running off conventional fuels.

NCDOT owns several fleets, including those operated by the Division of Highways, Division of Aviation, Ferry Division, and Rail Division. The presentation focused on the Division of Highways Fleet.

The Division of Highways (DOH) fleet owns trucks, pickups and heavy trucks. Pickups are subject to SB953; pickups are subject to SB 953 and EPACT; and heavy trucks are creditable under EPACT. DOH also owns and operates off-road construction equipment. DOT owns one of the largest fleets in the southeast United States and probably one of the largest in the nation.

Mr. Hyder reviewed a chart that described the potential reduction in emissions over conventional fuel, estimated fuels cost, and infrastructure cost for different fuels. A copy of the chart is attached to the minutes. Several observations were made:

- The greatest emission problem for North Carolina is nitrous oxide. There are no natural sources for NO_x, so such emissions are largely manmade. When NO_x emissions are reduced, there is a decrease in the amount of ozone.
- DOT should concentrate on reducing sulfates as an emission. Sulfates form a core that carries other particulates.
- DOT is using a lot of biodiesel, about 10% of NCDOT's overall fuel usage. Biodiesel requires little retrofit of existing equipment and fueling stations and is cost effective.
- DOT believes we can reduce NO_x by using additives to our fuel.
- Fuel cells are the cleanest technology available, but they limit the power and distance of the vehicle.

NCDOT has been using alternative fuels since 1993. NCDOT currently uses propane, biodiesel, and ethanol. A suitability test for diesel emulsion is planned. The Equipment Branch is working with our biodiesel vendor to find additives that can reduce NO_x. Through NCDOT's research program we have requested research proposals for a pilot use of fuel cells and for emission testing of biodiesel in NCDOT equipment.

Mr. Hyder stated that NCDOT has the opportunity to obtain emission credits in our State Implementation Plan towards conformity. We can also foster economic development in partnership with the Department of Commerce to encourage tobacco farmers to plant alternative crops for use in making bio-fuels. There also may be new industrial opportunities for North Carolina by bringing bio-fuel and hydrogen plants into the state.

Mr. Drew Harbinson, Director of NCDOT's Fleet Operations Equipment & Inventory Control Unit, was introduced. Mr. Harbinson gave an overview of NCDOT's current use of alternative fuels, noting that NCDOT's approach to their use has been very methodical. NCDOT began using alternative fuels in the 1980's.

The department's fleet is the second largest in the nation, second only to the federal government's fleet. It is made up of a diversified base of equipment that ranges from small pieces of equipment like generators to inland ferries and construction equipment. The fleet has about 27,000 pieces of light and heavy equipment, about 12,000 of which are considered to be "rolling stock", which means they can run on-road or off-road equipment. Of those, 7,510 are on-road vehicles (requiring registration and tags). On-road vehicles must conform to the Clean Air Act. The 4,024 off-road vehicles in NCDOT's fleet are not subject to the Clean Air Act.

In the early 1980's, NCDOT began experimenting with the use of methanol as an alternative fuel. That did not pan out because it was found to be expensive, required the use of special lubricants, and resulted in reduced performance.

NCDOT tried electric vehicles in the early 1990's in three first generation S-10 pickup trucks. The trucks required a lot of battery capacity, which weighted the truck down. The operational range was short since the truck could be driven only about 75 miles before it had to be recharged. Poor performance

While the performance was less than desirable, NCDOT ran these trucks until last year. The newer hybrid gas and electric vehicles show more promise.

This first bio-fuel NCDOT used was propane. In the mid-1990's, it cost NCDOT about \$6,000 additional per vehicle to have the bio-fuel capacity. (These vehicles are equivalent to a Ford F-150 or a 1500 GMC product.) NCDOT owns about 183 of these and plans to add about 20 to 30 more to our fleet. In addition, several portable fueling stations were at about \$25,000 each; the portable propane fueling stations allow the department to move the fuel supply around as the needs warrant. Currently, propane costs about \$0.78 per gallon; however, the availability and cost of propane fluctuates more than gasoline.

Compressed natural gas is considered to be the cleanest fuel. The vehicle and fuel costs same as propane, except that the cost for a fueling station is about \$250,000. The state of New York has added compressed natural gas fueling stations to support their fleet that has gone exclusively to compressed natural gas. The cost for their fueling stations has gone down to around \$150,000 since they have installed so many stations. NCDOT has about 108 fuel sites across the state, so converting all these stations would be an expensive proposition. Currently, NCDOT has ten vehicles running on compressed natural gas and one refueling site in Winston Salem. The performance using this type of fuel is satisfactory as it related to compression and torque, important for this type of vehicles.

Ms. Szlosberg asked if New York has seen an improvement in overall emissions as a result of its switch to compressed natural gas. Mr. Harbinson said he has not heard of any conclusions since the fleet conversion occurred within the last two years but indicated he'd check with New York Department of Transportation to see if they what result they have had.

Mr. Harbinson indicated that biodiesel holds the most promise for decreasing certain emissions

This fuel can be used for medium duty trucks as well as off-road equipment. The cost to convert a site is only about \$30 and \$12 for each vehicle (the cost of a fuel filter). The additional cost for fuel is about \$0.09 per gallon (B20 blend). NCDOT has the potential to convert 8,000 vehicles and 100 refuel sites to biodiesel fuel.

Ms. Szlosberg asked if the use of biodiesel results in an increase in NOx. He said this is true but can be counteracted with the use of additives. The contract vendor is currently conducting tests to identify the additive that will reduce the NOx levels. In addition, using synthetic oil also has a positive impact on NOx levels. NCDOT is conducting tests with the University of West Virginia and University of Texas to identify the actual emissions of biodiesel for uses similar to those of NCDOT.

EPA recognizes biodiesel as an alternative fuel and encourages its use. For every 2250 gallons of biodiesel fuel NCDOT burns, we can get one credit towards the 75% alternative fuel vehicles that we replace each year (up to 50% of the requirement).

NCDOT did try using ethanol and did this largely to support the Department of Administration's. NCDOT currently has two refueling sites for ethanol. NCDOT is looking at a new pick-up truck that will run off ethanol and is planning on expanding its fleet with vehicles that use ethanol. The fuel is more expensive at \$0.34 per gallon additional, and it costs about \$40,000 to convert a fuel site. There is no additional cost for the vehicles.

Other future options for alternative fuels include the use of emulsified diesel. There is some power loss associated with the use of emulsifiers, but more tests are being conducted by the University of Texas to ascertain the effects on emissions and power (specifically the loss of compression). Other products also show potential for use, including synthetic lubricants and fuel cells for use with small equipment.

Mr. Cowell asked why many of the tests NCDOT is conducting are being handled by out-of-state universities. Mr. Harbinson responded that currently there are only 4 sites in the United States that can handle the size of equipment that we are interested in having tested, none of which are located in North Carolina.

The next meeting for the Environmental Planning and Policy Committee is scheduled for Wednesday, November 6, 2002 at 8:00 AM in the Board Room (Room 150) of the Transportation Building.

NS/jh